

THERE IS CLAIMED:

1. A system for coupling a starter toothed ring to a peripheral part of a support connected to an output shaft of an internal combustion engine, said support including a substantially cylindrical peripheral surface adapted to receive said ring and said ring including a substantially cylindrical inside peripheral surface complementary to said peripheral surface of said support and adapted to cooperate with a rotor of a starter motor of said internal combustion engine, the axial faces of each tooth of said ring including, if necessary, a self-lubricating coating, wherein said complementary substantially cylindrical peripheral surface of said ring is fixed over at least part of its extent to said substantially cylindrical peripheral surface of said support in such a manner that said ring can deform slightly in the radial direction toward said shaft to reduce the maximum stresses exerted on said ring during a starting operation.

2. The coupling system claimed in claim 1, wherein:

- said peripheral part of said support adapted to receive said ring has a shape in radial section corresponding substantially to an inside angle that is substantially a right angle, with said substantially cylindrical peripheral surface for fixing said ring to said support and a radial surface of contact between said ring and said support;

- said inside peripheral part of said ring adapted to be fixed to said support has a complementary shape in radial section corresponding substantially to an outside angle that is substantially a right angle, with said complementary substantially cylindrical inside peripheral surface adapted to be fixed to over at least a part of its extent to said peripheral surface of said support,

and a complementary radial surface adapted to be in contact over at least a part of its extent with said radial surface of said support;

- said complementary peripheral surface of said ring is fixed over at least a part of its extent to said peripheral surface of said support in such a manner that said complementary radial surface of said ring can slide slightly along said radial surface of said support; and

- if necessary, means are provided to facilitate said sliding.

3. The coupling system claimed in claim 2, wherein said ring is fixed, for example welded or shrink-fitted, to said peripheral surface of said support in the region of said complementary peripheral surface at a distance from said complementary radial surface, and the remainder of said complementary peripheral surface is shaped in such manner that it is radially separated from said peripheral surface of said support.

4. The coupling system claimed in claim 3, wherein said ring has an annular part extending axially beyond said teeth in the axial direction away from said complementary radial surface and said inside peripheral surface of said axial end of said annular part constitutes said region fixed, for example welded or shrink-fitted, to said peripheral part of said support.

5. The coupling system claimed in claim 2, wherein a material favoring sliding of said complementary radial surface of said ring on said radial surface of said support, for example an elastomer or plastomer, is disposed between said two radial surfaces, preferably in the form of a coating fixed to said radial surface of said support.

6. The coupling system claimed in claim 1, wherein said ring is fixed to an intermediate member which includes said complementary inside peripheral surface and

where applicable said complementary radial surface and/or said annular part extending axially beyond said teeth.

7. The coupling system claimed in claim 1, which includes an annular deformable material, for example elastomer or plastomer, ring stuck to said peripheral surface of said support on one side and to said complementary peripheral surface of said ring on the other side.

8. The coupling system claimed in claim 7, wherein said annular ring has in radial section an L-shaped section and includes a radial wall stuck to said radial surface of said support on one side and to said complementary radial surface of said ring on the other side.

9. The coupling system claimed in claim 1, wherein said ring includes an annular groove starting from the surface delimiting said ring in the axial direction toward said rotor and extending axially in the opposite direction to said direction over a part of the axial dimension of said ring.

10. A coupling system claimed in claim 1, wherein said ring is fixed to said support only in peripheral fixing sectors regularly distributed around the axis of said support, leaving free said diametrically opposed sectors corresponding to compression areas and/or said diametrically sectors corresponding to expansion areas.

11. The coupling system claimed in claim 1, wherein said peripheral surface of said support has a recess level with each of said sectors corresponding to compression areas and/or with each of said sectors corresponding to expansion areas.

12. An internal combustion engine flywheel including at its periphery a starter toothed ring, wherein said toothed ring is fixed to a peripheral part of said flywheel by a coupling system according to the

invention and, if necessary, the flywheel is associated with means for lubricating radial faces of each tooth of the ring.